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Abstract

The present invention relates to polypeptides derived from human AIV apolipoprotein (AIVapo), nucleotide sequences coding for these polypeptides, preparation and use thereof.

1: Am J Physiol 1998 May;274(5 Pt 2):H1836-40 Related Articles, Links

FREE Am J Physiology

Apolipoprotein AIV: a potent endogenous inhibitor of lipid oxidation.

Qin X, Swertfeger DK, Zheng S, Hui DY, Tso P.

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Overexpression of apolipoprotein (apo) AIV in transgenic mice confers significant protection against atherosclerosis in apoE knockout animals even in the presence of a more severe atherogenic lipid profile. Because lipoprotein oxidation has been recognized to be pivotal in development of atherosclerosis, the antioxidative activity of apoAIV was investigated. Fasting intestinal lymph was used to mimic conditions in the interstitial fluid, the potential site for lipoprotein oxidation in vivo. ApoAIV (10 micrograms/ml) significantly inhibited copper-mediated oxidation of lymph. This inhibitory effect was further evaluated using purified low-density lipoprotein. Addition of apoAIV (2.5 micrograms/ml) increased the time of 50% conjugated diene formation by 2.4-fold, whereas apoE or BSA did not show such a protection even at 20 micrograms/ml. Addition of apoAIV during the propagation phase also resulted in a dose-dependent inhibition. ApoAIV also protected macrophage-induced oxidation of fasting lymph. These results provide the first evidence that apoAIV is a potent endogenous antioxidant.

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